

WHAT IS CLAIMED IS:

1. A tire vulcanizing apparatus comprising:
 - a tire conveying apparatus which reciprocates between a conveyance waiting position and a tire supplying position, conveys a green tire received at the conveyance waiting position to the tire supplying position, and returns to the conveyance waiting position after the green tire is held at the tire supplying position by an tire elevating apparatus;
 - the tire elevating apparatus which elevates at said tire supplying position, ascends the green tire conveyed to the tire supplying position by said tire conveying apparatus to an ascent holding position while holding the green tire, and descends to a descent set position from the ascent holding position so as to set the green tire to a lower mold coming to said tire supplying position;
 - the lower mold which reciprocates between said tire supplying position and a tire vulcanizing position, to which the green tire is set at said tire supplying position by the tire elevating apparatus, and which is moved to the tire vulcanizing position from the tire supplying position in a state of setting the green tire, vulcanizes and molds the green tire with respect to the upper mold at the tire vulcanizing position, and thereafter is moved to the tire supplying position from the tire vulcanizing position; and
 - an upper mold which elevates at said tire vulcanizing position, vulcanizes and molds the green tire with respect to said lower mold at a descent vulcanizing position, and thereafter ascends to an ascent waiting position so as to move apart from

said lower mold,

wherein said tire conveying apparatus reciprocates at one time between the conveyance waiting position and the tire supplying position during a period of vulcanizing and molding the green tire between the lower mold and the upper mold at the tire vulcanizing position.

2. A tire vulcanizing method provided with a tire conveying apparatus which reciprocates between a tire supplying position and a conveyance waiting position, a tire elevating apparatus which elevates between an ascent holding position and a descent set position at said tire supplying position, a lower mold which reciprocates between said tire supplying position and a tire vulcanizing position, and an upper mold which elevates between a descent vulcanizing position and an ascent waiting position at said tire vulcanizing position, comprising:

a tire conveyance supplying step of moving the tire conveying apparatus from the conveyance waiting position to the tire supplying position so as to convey the green tire received at the conveyance waiting position to the tire supplying position;

a tire ascent holding step of ascending the green tire on the tire conveying apparatus to the ascent holding position by holding the green tire by the tire elevating apparatus after said tire conveyance supplying step;

a tire conveyance returning step of moving the tire conveying apparatus from the tire supplying position to the conveyance waiting position after said tire ascent holding step;

a tire descent setting step of descending the tire

elevating apparatus from the ascent holding position to a descent setting position so as to set the green tire to the lower mold coming to the tire supplying position, after said tire ascent holding step;

a supply moving step of moving the lower mold in a state of setting the green tire from the tire supplying position to the tire vulcanizing position, after said tire descent setting step;

a tire vulcanizing step of vulcanizing and molding the green tire between the upper mold descending to the descent vulcanizing portion and said lower mold at the tire vulcanizing position, after said supply moving step;

a leaving step of ascending said upper mold to the ascent waiting position so as to leave from said lower mold, after said tire vulcanizing step; and

a return moving step of moving said lower mold from the tire vulcanizing position to the tire supplying position, after said leaving step,

wherein the tire conveyance supplying step to the tire conveyance returning step by said tire conveying apparatus are executed during said vulcanizing and molding step.